



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF

5HR-11

APR 21 1988CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Marvin Clumpus, P.E.
Project Coordinator
Manville Corporation
Post Office Box 5108
Denver, Colorado 80217

Dear Mr. Clumpus:

The United States Environmental Protection Agency (U.S. EPA) hereby disapproves the Remedial Work Plan (RWP) for the Johns-Manville site in Waukegan, Illinois. With the exception of the U.S. EPA Quality Assurance Office (QA0) required modifications, which comprise Attachment I to this letter, all required modifications to the RWP are listed below in order of their appearance in the document. Code letters placed in front of the modifications have the following meanings:

M = major comment, required for approval

S = strong suggestion, not specifically required for approval but will affect the quality, use, or validity of the work if not addressed or is an important health and safety concern designed to be more protective to on-site workers

No Code = minor comment, not required for approval.

The required modifications to the RWP are as follows:

M Page i, First Paragraph - add IEPA and IOAG to the list of signatories to the Remedial Action Consent Decree.

M Page i, End of First Paragraph and Page 1, 2.1, end of second sentence - add the following sentence at the end of the first paragraph of Page i and as an insert after the second sentence of Section 2.1 of Page 1: "In the event that there is any inconsistency between the Remedial Work Plan and the Remedial Action Consent Decree, the Remedial Action Consent Decree shall govern."

Page 1, 1.0, First Paragraph - this paragraph should also reflect the fact that friable asbestos wastes were also disposed of at the Disposal Area.

M Page 3, 2.1.a, lines 18, 19, 20 - a full scan for semi-volatiles must also be performed for the testing of cover soils.

M Page 3,2.1.b, second sentence - the asbestos disposal pit will be closed in June 1989, regardless.

Page 3,2.1.c - at the end of the first sentence add ",in accordance with all applicable laws."

Page 4,2.1.d - at the end of the sentence, add "in accordance with NESHAP requirements."

M Page 4,2.1.e - the last sentence should read "Soil cover monitoring will be performed once a year for the first five years. After the fifth year, U.S. EPA will evaluate the required frequency for further monitoring and require appropriate action to be taken by Manville. In no event will monitoring be performed less frequently than once every five years, as required by SARA."

Page 4,2.1.f, line 11-" basins" should be "basin".

M Page 4,2.1.g ii), last line - after "then", add ", if U.S. EPA and IEPA approve," Note: this will require an amendment to the Consent Decree.

Page 5,2.1.h - first line should read "The north, west, south and a portion of the east slopes".

Page 5,2.1.j, First Paragraph - At the end of this paragraph, add: "The purpose of these monitoring programs is to ascertain and control the level of impact that present and past waste management practices on the site pose to Lake Michigan. Trigger levels are established in the Remedial Contingency Plan to ensure that Illinois Water Quality Standards, U.S. EPA Ambient Water Quality Standards, and Great Lakes Water Quality Agreement Specific Objectives are not exceeded at any point in the ground water or surface water."

M Page 5,2.1.j - it must be stated in this section that the ground water monitoring wells will be approved by U.S. EPA/IEPA representatives in the field. Government staff should also be notified in advance of sampling dates (this applies to every sampling program) to afford the opportunity to observe these activities and split samples, if desired. This also applies to the last sentence of Section 2.0 on Page E-2 and Section 3.2 on Page C1-2.

M Page 5,2.1.j 2) - the full scan of semi-volatiles, PCBs, and PBBs must also be analyzed for in all ground water and surface water samples and all waste water treatment system influent samples. Table C1-1, Section 8.0 on Page C1-9, the last paragraph of Page C1-B-3, the table on Page C1-B-4, Section 2.0 on Page C1-C-1, and Section 8.0 on Page C1-C-5 must also be amended to reflect the inclusion of full scan semi-volatiles, PCBs, and PBBs in the list of parameters.

Page 6, third line - add "ground water/surface water" before "quality parameters", and "determined" should be replaced with "agreed to by U.S. EPA, IEPA, and Manville."

M Page 6, Item 6), line 6 - add " and implementation" after "implementation".

Page 8, 2.1.m - if appropriate access can be obtained, existing fences should also be extended east to the edge of the lake.

M Page 8, 2.1.0, last line - at end of sentence, add ", with vegetation, by December 1989."

Page 8, 2.1.q, As you are aware, the IEPA/DLPC is concerned about past and future on-site disposal activities. If possible, it would be desirable to analyze these composited samples for the hazardous substance list compounds to alleviate concerns about contamination besides asbestos in this waste area.

Page 9, 2.2 - It is more accurate to state that this Draft Work Plan "has been amended to reflect review responses to a preliminary partial draft submitted to U.S. EPA/IEPA."

Page 9, 2.4, third line - put "approval" in quotation marks.

Page 9, 3.2 - indicate that Progress Reports will also be submitted to IEPA/IOAG.

S Page 10, 3.2 - last bullet should read "Copies of sampling and testing results, as well as other data received, including all necessary QA/QC data and a QA data review;"

M Page 10, 3.2 - add bullets as follows:

- o all statistical analyses and determinations performed in conjunction with the contingency plans
- o copies of Statements of Account for each money account required by the Consent Decree.

Page 11, Master Project Schedule - once the remedial action is authorized to proceed, this schedule should reflect specific calendar dates.

M - monitoring well installation should be performed at the beginning of construction, at 0 months.

M - no end point for submission of monthly progress reports should be indicated.

Attachment D - Sludge Dredging Plan

Page D-1,3., Second Paragraph - it is suggested that a test plot be set up on-site to evaluate the dewatering capacity of the sludge. This should be done up front to avoid an unmanageable situation.

M Page D-1,3., Second Paragraph, line 6 - add ", if approved by U.S. EPA and IEPA." after "basin"

M Page D-1,3., Fourth Paragraph, first line - "D" should be "D-1".

Attachment E - Ground Water Monitoring System

S Page E-1, 2.0, Second Paragraph - MW1 and MW2 should be located just outside of the Manville employee parking lot and should be above-ground wells, not flush mounted. Figure E-3 and all other references to flush mounted wells, such as Page E-5, top of page, and Page E-6, sixth bullet, should be deleted.

M Page E-1, 2.0, Second Paragraph - The deep wells installed in this monitoring plan must intercept the clay/till layer. The screen should be set approximately one foot into this distinct layer to monitor the interface between aquifers. This should be changed at all other places in the document, such as Page E-1, 3.0, Second Paragraph and the table on Page E-5 (estimated drilling depth), where deep well depths are discussed.

Page E-1,3.0 - the type of stainless steel should be specified.

S Page E-5, first bullet - the stainless steel pipe should also be properly cleaned prior to installation. Decontamination water should be obtained from a known, uncontaminated source.

S Page E-5, second bullet - initially level C protection should be used. Initial ambient air monitoring for organics (with an HNu or similar instrument) should be undertaken at each location. Down-grading to level D can be allowed if dictated by the HNu readings and personal air sampling results for asbestos.

Page E-6, seventh bullet - the well locations should include protective painted concrete/steel posts to prevent damage to this permanent monitoring network.

S Page E-6, eighth bullet - specify where these wastes will be disposed of.

Page E-6, ninth bullet - these permanent ground water monitoring wells should be surveyed in and referenced to a known USGS established elevation.

S Page E-6, 4.0 - The recommended grout curing period should be extended to ensure that new wells are not damaged by premature development. Purge water should be disposed of on-site, in an area away from the well site.

Attachment F - Remedial Contingency Plans

M Page F-2, Second Paragraph - the standard of respirable particulate matter (aerodynamic diameter is less than 10 micron), commonly known as PM₁₀, should replace all references to Total Suspended Particulate (TSP) in the Remedial Work Plan.

M Page F-2, Second Paragraph - general comment regarding the criteria for activating the contingency plans-applies to both air and ground water/surface water (p.F-2 and p. F-3): The explanation provided in the second paragraph on page F-2 and point 1. on page F-3 is too basic. It must be specified:

- 1) when the t-test is to be applied,
- 2) which t-test is to be applied, and
- 3) what (statistically) will constitute an exceedance (i.e how comparisons with standards, criteria, and objectives, as well as with background conditions will be made).

The following must be addressed by Manville in specifying the above-listed considerations:

- 1) For every round of sampling, data need to be compared to: for water, a complete list of MCLs, Illinois Water Quality Standards, U.S. EPA Ambient Water Quality Criteria and Great Lakes Water Quality Agreement Specific Objectives, and for air, a complete list of National Ambient Air Quality Standards.
- 2) After the first year of sampling for ground water/surface water, and after the first sampling for air, it will be necessary to perform the chosen statistical analysis to determine whether any ground water/surface water or air exceedances have occurred (i.e. whether any contingency plans will be implemented).
- 3) Manville has the latitude to perform a t-test of choice that will accomodate the data, but results must be presented and action taken based upon the results of only one type of test.

"Regardless of the specific procedure, the t-test methodology should be explicit and include:

- o A clear, understandable explanation of the methodology;
- o Presentation of explicit example calculations;

- o The inclusions and documentation of all the original data used in the statistical analysis procedure;
 - o Literature reference citations documenting alternative t-test procedures; and,
 - o A detailed explanation of how data were manipulated and evaluated prior to the statistical analysis, including goodness-of-fit testing, transformations, less than detection limit value manipulations, and power evaluations" (taken from RCRA Ground Water Monitoring Technical Enforcement Guidance Document).
- M Page F-2, Points 1 through 5 and Page F-3, Points a) through e) - general comment on implementation of remedial contingency plans - applies to both air and ground water/surface water contingency plans: the contingency plans implementation is too basic. It must be specified:
- 1) What "appropriate air and ground water/surface water monitoring programs" are, and how exceedances will be assessed and confirmed, and
 - 2) What time frames will be used for each element of the contingency plans.

The following must be addressed by Manville in specifying the above-listed considerations:

- 1) the first Work Plan submittal shall be called a draft Work Plan, and a Final Work Plan should be submitted to U.S. EPA and IEPA within 30 days of Manville's receipt of U.S. EPA/IEPA comments on the draft Work Plan, and
- 2) The schedule for completing different tasks of the Contingency Plan should be included in the draft Work Plan, and should include, at a minimum time frames for completion of points 4 and 5 for the air contingency plan and points d) and e) for the ground water/surface water contingency plan.

As previously stated, the Monthly Progress Reports will be the vehicle for presentation to the agencies of all data, data comparisons, statistical analyses, and other elements of these contingency plans.

- M Page F-2, Point 1 and Page F-3, Point (a) - this sentence should read "An appropriate air (ground water/surface water) monitoring program will be implemented (sampling completed) to assess and confirm exceedances within 90 days of the date of the sampling event for which analyses that indicated exceedance(s) was conducted.

- M Page F-2, Point 3., fourth line - insert "under this Consent Decree" before "will be taken".
- M Page F-3, Point 1., line 3 - "established" should be "promulgated".
- M Page F-3, Point 1, line 4 - "equivalent" ground water contaminant levels (risk based) should be established after the initial quarter of full analyses.
- M Page F-3, Point 2, line 3 - at the end of this line, add ", or whatever ground water standards for asbestos and arsenic are promulgated in the future."
- M Page F-3, Point 4, line 3 - at the end of this line, add ", or whatever applicable surface water standards for asbestos and arsenic are promulgated in the future."

Page F-3, Point a), line 1 - "monitoring" should be "assessment".

Page F-3, Point c) - any exceedance of ground water pollution limits from the Manville waste site is reason for assessment of that contaminant pathway.

Attachment H - Plant Materials Information

- M General Comment - the plant materials information presented is not sufficient in that no information on chemicals used in the past is included, much information presented is too general to allow a determination of which specific chemicals were used (e.g. use of general term "volatile organics"), and the list does not allow the determination of harmful substances which may have been inadvertently produced as by-products of processes. U.S. EPA has required the addition of full scan semi-volatiles, PCBs, and PBBs to certain sampling programs in order to ensure that all necessary analyses are performed. In view of these facts, no changes to Attachment H are necessary. However, if Manville wants to reduce the number of parameters, then the above-listed deficiencies must be addressed.

Attachment A - Consent Decree

Page A-51 - The Remedial Action Consent Decree should contain the executed signature sheet for the parties of the State of Illinois.

Attachment B - Specifications

M Section 2.1.a - "minimize" should be "eliminate". Also, add the following sentence: "If any visible emissions are observed, on-site work will be shut down immediately and the area will be wetted with a fogger or comparable device to prevent any further visible emissions."

S Sections 2.2, 2.5, 2.6, and 2.7 - Level C personnel protection should be used for the activities described in these sections.

Sections 23.1 - The words "practical minimum" are too vague. Erosion limits should be linked to the PM₁₀ standard.

S Section 29.3, last sentence - "grading to placing" should be "grading through placing", and ground water monitoring well installation should be added to this list of activities if level D protection is to be employed for the well installation activities.

S Section 29.6.3 - If a monitoring well is damaged, the contractor should pay for the same firm that did the original installation to replace that well to insure consistent construction materials/techniques which will yield compatible data.

M Project Sign section was removed from this document. This should be put back in as it appeared in the preliminary draft submitted in February 1988.

Section 3.01 - Clearing and Grubbing - some provision for the replanting of trees, etc. is needed, at locations to be selected or discussed with Manville.

M Section 3.02 - Clearing and Grubbing - add "and EPA." at the end of the first sentence.

Section 2.01 C - Earthwork - soil can be ML - CL or CL and contain up to 10% organics (clay content 25% to 65%).

Section 2.01 D - Earthwork - the percentage of riprap bedding material in the 2-1/2" to 3" range should be specified and should be no greater than 5 percent.

Page 02200.2 - Earthwork - the first time the Illinois Department of Transportation's specifications for road and bridge construction manual (Oct. 1984) is used, it should be referenced.

M Page 02200.2 - Earthwork - finished subgrade surfaces should be approved before topsoil is allowed to be placed.

Section 2.01 J - Earthwork - the specifications for IDOT mixture Class 1A or 11A should be spelled out.

- M Section 3.01 B 2. - Earthwork - as previously stated, full scan semi-volatiles should be added to the list of soil testing parameters.
- M Section 3.01 B 4. - Earthwork - soil testing should be performed on a volume, not area, basis.
- M Section 3.01 C.1, first sentence - Earthwork - "minimize" should be "eliminate."
- M Section 3.01 C - Earthwork - Non-toxic chemical suppressants should be used on areas which are not being worked on (either to be worked on or finished areas prior to establishment of vegetation). A shroud can be used on grading equipment as an additional dust control measure.

Attachment C - Quality Assurance Project Plan

- M General QAPP Comment - the QAPP is not always consistent with the Work Plan (number of samples, parameters, etc.). The two documents must be consistent.
- Page C1-1, Section 2.2, third line - insert "or near" after "wastes at".
- M Page C1-1, Section 2.2, Sixth line - delete "for a period of 30 years" and replace it with "in accordance with the required SARA 5 year review scenario".
- M Page C1-1, Section 2.2, seventh line - at the end of the sentence, add ", with the exception of the waste water treatment system, which will be sampled after each significant process change."
- M Page C1-3, Table C1-1, 2. Soil Cover Monitoring - add, under "visual for asbestos...":

Matrix

Parameter

Soil

Asbestos

Page C1-3, Table C1-1, 3. Active Waste Disposal Areas Testing - under the parameter list for process waste water, delete asbestos from the parenthetical phrase.

- S Page C1-5 Section 4.1 Level of QC Effort - One field duplicate and one field blank should be taken for each set of ground water samples, as well as one field duplicate and one field blank for each set of samples in surface water locations. Samples for which field duplicates and field blanks will be collected should be determined randomly for each round of sampling, from each group of groundwater samples and surface water sampling locations.

All instruments used in the field for collection of field measurements (specific conductance, pH, turbidity, temperature) should be calibrated daily according to standard procedures.

Page C1-8, Section 6.3 - it is assumed that all project files will be maintained on-site. They should be available for inspection by U.S. EPA/IEPA representatives involved in the project.

Page C1-8, Section 7.0 Calibration Control - Field calibration methodology for nephelometers, or turbidity meters which will be used to describe water turbidity and clarity, needs to be described.

Page C1-9, Analytical Procedures - The listed detection limit for lead (5 ug/l) is in excess of U.S. EPA Ambient Water Quality Criteria for Chronic effects. The limits of detection need to be below any standards, objectives, or criteria which might be applied.

It needs to be clarified whether the detection limit listed for chromium (10 ug/l) will apply to total chromium, hexavalent chromium, and to trivalent chromium as well. It needs to be clarified whether the detection limit listed for arsenic (10 ug/l) will apply to total arsenic, pentavalent arsenic, and trivalent arsenic as well.

It needs to be detailed how PCBs will be analyzed.

M Page C1-A-1, Section 1.0, Second Paragraph, line 3 - delete "thirty (30) year".

M Page C1-A-1, Section 1.0, Second Paragraph - add "and analytical" after the word "visual" each time it appears in this paragraph.

M Page C1-A-1, Section 2.0, first sentence - add "visual portion of the" after "The", and delete "for a total period of thirty (30) years."

M Page C1-A-1, Section 2.0 - at the end of this section, add:
"Beginning immediately after the establishment of the soil cover and placement of benchmarks, soil borings will be taken once a year for a period of five years, and thereafter, once every five years. The borings will be taken at 10 locations per sampling event and to a depth of 24 inches. The borings will be sent to an approved CLP Lab for asbestos analysis in soil. Results will be made available to U.S. EPA and IEPA as soon as possible via the Monthly Progress Reports."

M Page C1-A-1, Section 3.0 - at the end of this section create new sections which list sample locations, equipment, sampling procedures, sample analysis, personal protective equipment and decontamination procedures, sample documentation and sample preservation, packaging, and shipping.

Then add a section or sections which outline a remedial contingency plan for the soil cover. A contingency plan identical to those for air and ground water/surface water, as amended by this comment letter, can be adopted. The submission of the Contingency Work Plan should be triggered by the detection of asbestos fibers at a depth of 18 inches in the cover, and the contingency plan should be implemented when asbestos fibers are detected at a depth of 12 inches in the cover.

- M Page C1-B-1, Section 4.0 - the Miscellaneous Disposal Pit should be sampled to a depth of 24", in increments of 12" (i.e. 0-12" and 12-24"). This modification necessitates a change in the table on page C1-B-3.

Page C1-B-1, Section 4.0 - as stated for page 8, 2.1.g, Miscellaneous Disposal Pit samples could be analyzed for the hazardous substances list compounds. Borings could be taken to a depth of six feet.

- S Page C1-B-3, Section 4.0 - sample containers should be from a standard source for hazardous waste work.

- M Page C1-B-4, First Paragraph - 12 waste water influent samples will be allowed only if one waste line is permanently shut down; otherwise, it must be sampled as soon as it is in use (after the first 12 samples are taken). Also make this change in Section 5.0, Second Paragraph.

- S Page C1-B-4, Section 6.0 - Level C protection should be used for sampling the miscellaneous and sludge disposal pits.

- S Page C1-B-4, Section 6.0 - sampling equipment decontamination should consider a solvent rinse step before drying.

- M Page C1-B-5 - additional sections should outline a remedial contingency plan to be implemented if 1) asbestos is detected in the Miscellaneous Disposal Pit, 2) if asbestos-containing sludge is near the surface of the Sludge Disposal Pit, or 3) hazardous wastes are entering the waste water treatment system. A contingency plan identical to those for air and ground water/surface water, as amended by this comment letter, can be adopted.

- M Page C1-C-1, Section 2.0 General Groundwater and Surface Water Sampling Criteria - The monitoring plan was never intended to be limited to a 30-year period. Rather, the monitoring will go on indefinitely pursuant to the provisions of Section 121 of SARA, provided that Article V(1)(j)(4) and Article V(1)(j)(5) of the Consent Decree are not violated, in which case remedial contingency plans will go into effect.

- M Page C1-C-1, Section 2.0, Second Paragraph - For the two sentences in this paragraph which begin with "This contingency plan will", the statement "For arsenic and asbestos," should be inserted at the beginnings and the statement", or whatever applicable ground water/surface water standards for arsenic and asbestos are promulgated in the future." should be inserted at the ends of these sentences.

S Page C1-C-3, Section 3.0 - An ambient air monitoring device should be utilized at the well head. Purging should continue until indicator parameters have stabilized. Well sampling should be done consistently with the same equipment (preferably teflon bailer or submersible pump). Decontamination concerns would be eliminated with dedicated systems.

M Page C1-C-3, Section 3.0 Sampling of Ground Water - One of the aims of the ground water monitoring program is to define the hydrogeological environment. To this end, it will be necessary to determine aquifer parameters, and the direction and rate of flow.

Care needs to be taken that bailers, or other instruments are lowered gently into the monitoring wells rather than dropped, to avoid degassing of volatiles.

S Page C1-C-3, Section 3.0, Second Paragraph - the need for filtration (water clarity/turbidity) should be determined quantitatively (nephelometer, turbidity meter) rather than qualitatively as implied here. The QAPP should detail the methodology that will be employed to determine the need for filtration. Field filtration methodologies need to be detailed as well.

S VOA samples should be collected according to Standard VOA sample collection procedures, carefully avoiding undue agitation of samples, and ensuring that no head space is left in the sample vial.

M Page C1-C-3, Section 4.0 - The term "surface water" sample is somewhat misleading, but can be utilized as long as clarification of the meaning of the term is provided in this section and in conjunction with the purpose of the sampling program to be delineated per the second comment regarding Page 5 of the Work Plan. Grab samples collected in the surf zone of Lake Michigan will be diluted by lake water, and thus will not adequately characterize discharging ground water. These same grab samples, however, will be adequately representative of asbestos levels in the surf zone. Therefore, three very different kinds of samples will need to be collected at each of the three surface water sampling locations:

- 1 - Grab samples for asbestos may be collected in the manner described in the draft Section 4.0, Sampling of Surface Water.
- 2 - Seepage meters will need to be emplaced to ascertain the ground water discharge direction and rates at the three surface water locations.
- 3 - Mini-piezometers will be used to confirm the direction of ground water discharge, and to collect samples of discharging ground water for chemical analysis

Methodologies for seepage meter and mini-piezometer sample collection are detailed in Attachment II to this letter.

S Page C1-C-3, Section 4.0 - The S-Lake location is not appropriate for use as background information. For asbestos samples, the City of Waukegan Lake Michigan water intake should be used. For mini-piezometer samples, the ground water background samples should be used for comparison.

S Page C1-C-3 Field Blanks and Duplicates - One field duplicate and one field blank should be taken for each set of ground water samples, as well as one field duplicate and one field blank for each set of samples in surface water locations. Samples for which field duplicates and field blanks will be collected should be determined randomly for each round of sampling from each group of ground water samples and surface water sampling locations, with preference given to those wells with the potential for the most contamination (e.g. proposed well #8).

S Page C1-C-4, Section 6.0 and Appendix C1-D - the sample containers, quantities, and preservatives tables and narratives must be adjusted to reflect the expanded parameter list required by the last comment regarding Page 5 of the Work Plan. Polyethylene containers should not be used for organic samples.

M Page C2-1 - as previously stated, all references to TSP should be changed to PM₁₀, including the procedure for sampling and analysis included in Appendix C2-B.

Page C2-1, Section 2.1, First Paragraph - this paragraph should be amended to reflect the fact that friable asbestos wastes were also disposed of at the Disposal Area.

Page C2-A-1, Section 1.0, lines 4 and 5 - "establishment of vegetation cover" should be defined. This also applies to Page C3-1, Section 2.2.

Page C2-A-1, Section 2.0 - The Plan calls for two off-site and five on-site sampling locations. Six monitors, five placed on the site fenceline perimeters (see map that comprises Attachment III to this letter) and one off-site for background concentrations should be sufficient. Attachment III should be inserted in place of Figure C2-A-2. The background sample should be taken at least a mile and a half away to the southwest of the site of remedial action and away from any roads or loose dirt. Figure C2-A-1 should be amended to reflect this. Perimeter siting is preferred because the comparison of the measured PM₁₀ and lead concentrations at the fenceline will be compared to the PM₁₀ and lead standards.

S Page C3-7, Section 12.2 - The laboratory that does the analysis should be certified.

Page C3-9, Section 13.2, Second Paragraph - delete "Subject to availability".

Page C3-12, Section 19.2, last sentence - delete or clarify this sentence.

M Page C3-A-1, Section 2.1 - Asbestos sampling sites should be located at the same sites suggested for particulate, lead, and chromium sampling. The thirty-five samples should be distributed between these five sites. There should be at least five background samples taken at a location at least a mile and a half away to the southwest of the site. Care should be taken to not site the background location near roadways or gravel. Figure C3-A-1 should be amended to reflect this.

M Page C3-A-7, Figure C3-A-2 - Attachment III should replace Figure C3-A-2.

Attachment G - Health and Safety Plan

S General Health and Safety Comments - Based on a recommendation of the U.S. EPA, two people on site must be stated in the Site Safety Plan (SSP) who will have the responsibility to "change levels of protection and when necessary shut down the operation".

S It is recommended that the particular job task be linked to any potential health and safety hazards.

S It is recommended that Emergency Procedures and First Aid measures be included in the SSP.

S Page G-3, Section 2.3.1 - Personnel working in a hazardous environment should have the minimum safety training and be enrolled in an adequate medical monitoring program. (Applies to Section 4.2. and Section 8.1 of Attachment B also). U.S. EPA/IEPA should be made aware of any modifications to the HSP.

S Page G-7, Section 4.1 - a procedure to evaluate/change respirator cartridges should be defined.

S Page G-7, Section 4.3 - "Work"/Contamination, Decontamination, and Support areas should be identified on the site map.

S Page G-7, Section 4.3 - add bullet:
° No contact lenses will be worn on site.

M Page G-11, Section 6.0, First Paragraph - add a sentence at the end of this paragraph as follows: "In the event any visible emissions are noted, work will stop immediately, and the area will be wetted sufficiently before work starts up again. Work should not be done at any time when visible emissions cannot be observed, such as dusk/dawn/nighttime.

M Page G-11, Section 6.0, Fifth Paragraph - data associated with personal air monitoring should be summarized and submitted/made available to U.S. EPA and IEPA.

M Appendix G-C - general comment - the ambient air monitoring portions of this Appendix should be placed in the QAPP in the post-remedial asbestos air monitoring section (Attachment C-3) and referenced in the Work Plan.

M Page G-C-2, Section 3.2.2 - Asbestos sampling sites should be located at the same sites suggested for particulate, lead, and chromium sampling(i.e. Attachment III should replace Figure G-C-1) and a background location should be established at least one and a half miles southwest of the site (need additional Figure). Measurements should be compared to 4.3×10^{-6} fibers/cm³, based on Transmission Electron Microscopy (TEM) analysis. This number is the concentration that would yield a 10^{-6} risk for cancer. Results of the TEM analyses should be submitted to the U.S. EPA and IEPA Project Managers within three days of the sampling event.

All samples should be selected for TEM analysis, which is the U.S. EPA recommended analysis, unless a relationship can be established between TEM and PCM. U.S. EPA recommends TEM in this case because the cancer unit risk factor for asbestos is based on TEM analysis, and no other health benchmark is available for ambient air. Also, phase contrast microscopy cannot distinguish between asbestos and other fibers. Since the samples will be taken outside, there will probably be fibers other than asbestos on the samples.

Drawings

M Drawing #3 - riprap must be provided for Stage 1 Trough, or a very good explanation provided.

Drawing #3 - 115 feet of new sewer pipe near Stage 1 Trough has been removed from the plan. An explanation should be provided.

M Drawing #5 - riprap or equivalent protection as required by the Consent Decree must be provided for the Black Ditch side slopes.

M Drawing #6 - no cover or riprap is being provided for the side slopes of the sludge disposal pit. This must be provided.

Drawing #6 - small trees planted on the easterly slopes would aid in the aesthetics of the remedy.

M Drawing #10 - the asbestos disposal pit, after remediation, is a depression with respect to the surrounding site areas. The asbestos disposal pit must be filled with sludge and other construction-generated

debris (unless prevented by dewatering conditions and agreed to by U.S. EPA and IEPA), and closed in June 1989, regardless. It should never be assumed that this pit, once covered, would have capacity to serve as a future miscellaneous waste disposal site.

The concurrence of IEPA has been obtained for these required modifications. Any required modification affecting other areas of the Remedial Work Plan should be implemented at all such other areas.

Pursuant to Article V 2. of the Remedial Action Consent Decree for the Johns-Manville site in Waukegan, Illinois, Manville shall make all required modifications to the Remedial Work Plan and submit an Amended Remedial Work Plan, including final plans and specifications, to U.S. EPA and IEPA within 30 days of its receipt of this letter, subject to the dispute resolution provisions of Article XII of the Consent Decree.

Due to the extensive nature of the required modifications, it may be helpful to arrange a meeting between U.S. EPA, IEPA, and Manville and their representatives to discuss any required modifications for which Manville needs clarification. Manville is cautioned that any modifications made to any portion of the Remedial Work Plan that are not required by this comment letter should be discussed with U.S. EPA and IEPA prior to submission of the Amended Remedial Work Plan. The goal of U.S. EPA and IEPA is to provide Manville with the means to submit an Amended Remedial Work Plan which will be approved, and vague comments and additional modifications that are not required under this letter may not be responsive to this goal.

If you have any questions concerning this letter, please contact me at (312) 886-4742.

Sincerely yours,



Brad Bradley
U.S. EPA Project Manager

cc: Kurt Neibergall, IEPA

bcc: N. Niedergang, CES
L. Johnson, 5CS-TUB-3
M. Klevs, 5AR-26
P. Prankevicius, 5GL-TUB-10
G. Wittman, 5WD-TUB-8
C. Tsai, 5SQA-536-10